Vocational Equipment Grant Program
2013 Project Summaries

Agriculture and Natural Resources

Horticulture: Bristol County Agricultural School District ($33,547)

The Bristol County Agricultural School District sought to improve its Landscape Construction program within the Landscape Department. Funds allowed for the purchase of materials that allowed the District to transform a storage shed into a classroom that students will construct and deconstruct each year. This project includes industry and education partnerships, including skills workshops offered during a monthly basis by local landscaping companies. Students participating in the program secure an OSHA10 certification, and have the opportunity to secure a pesticides license and participate in a 2-day workshop to earn certification as an interlocking paver installer.

Horticulture: Smith Agricultural and Vocational School District ($49,653)

Smith Agricultural and Vocational School District utilized funding to purchase a tractor to train both agricultural and forestry/horticulture students on campus with a modern, industry standard and compliant tractor. Nearly 90 students will benefit from the ownership of the tractor during the first year of ownership. The program developed articulation agreement with Holyoke, Greenfield, and Springfield Community Colleges.

Arts and Communication Services

Telecommunications:Minuteman Regional Vocational Technical School District ($16,226)

Minuteman Regional Vocational Technical School District ("Minuteman") works diligently to stay informed of technology education and training students as they prepare to enter into the workforce or post-secondary education. Using the funds from the VOC Grant Program, Minuteman purchased equipment to enhance the education of students enrolled in its Telecommunications Program. Minuteman rolled out this new program to the 42 students currently in the program. This new program focuses on the installation and maintenance of low voltage residential wiring systems used in home theater and telecommunications equipment interconnections which include antenna, satellite, cable TV, wireless broadband equipment audio and video entertainment equipment and computer/networking equipment.

Graphic Design: ***Plymouth Public Schools ($26,812)***

The Graphic Design and Visual Communications Program Advisory Committee indicated at both the 2013 and 2014 meetings that there is a demand in the industry and at the post-secondary schools that students be trained in Graphic Design using both the PC and Mac platforms. The Vocational Equipment Grant allowed the district to purchase 16 new iMac computers for our grade 11 and 12 students enrolled in the Graphic Design and Visual Communications program at Plymouth South High School. Students were introduced to this new platform and software in September of 2014 with great enthusiasm. Students have also worked side by side with the Broadcast Journalism and Marketing programs to develop designs for their programs. In addition, students in the Skills USA program use the equipment for designing their competition projects. Currently, there are 36 students enrolled in the program and 87.5% of our graduates have found positive placement as defined by the Perkins Grant. Four students from the program found co-op placement thanks to the skills they have developed using the iMac computers.

Graphic Communications: Tri-County Regional Vocational Technical School District ($71,091)

Over the past few years, Tri-County RVTSD worked with industry partners to ensure that students in the Graphic Communications program are trained on modern equipment that will ensure they are ready to enter the workforce. Using funds from the VOC Grant program, the district purchased a color print production digital press and related software. This investment was matched with a total industry discount of $115,640 from Konica Minolta including professional development in training on its use by industry experts. This equipment will enhance the curriculum offered to the 84 students annually who are enrolled in the program. Each year an estimated 21 students complete the program, with a 95% positive placement rate of students entering the workforce or continuing their education.

<u>Business and Consumer Services Construction</u>

Carpentry: ***Silver Lake Regional School District ($20,720)***

Over the past few years, Silver Lake Regional High School's Career & Technical Education Program worked with industry partners to ensure that students in the carpentry program are trained on modern equipment that will ensure they are ready to enter the workforce. Using funds from the VOC Grant program, the district purchased a new *Striebig* Compact Panel Saw. A local CNC machinery sales company, Colonial Saw, made a partnership contribution of $7,530 as well as a commitment to train teaching staff and maintain a scheduled preventative maintenance program. This new and safe panel saw technology will enhance the carpentry curriculum offered to the 46 enrolled students, as well as well as the 15 who enter annually. The carpentry program annually reports a positive industry placement rate of over 90%.

Electricity: ***Shawsheen Valley Regional Vocational School District ($25,000)***

By adding the capacity to educate and train high school students as well as adults in solar panel technologies, Shawsheen Valley Regional Vocational Technical School District ("Shawsheen") will be serving the needs of employers in the region. With the solar photovoltaic array on-site, Shawsheen will have the opportunity to develop a solar specialty track in our electrical shop and thus be able to satisfy local industry demand in the coming years. There are currently 104 students enrolled in grades 9-12 in our Electrical Program. Follow-up data reveals that 100% of our recent graduates are positively placed, i.e. employed in a related field (62%), enrolled in post-secondary program (35%) or in the military (3%). This June, Shawsheen will graduate 20 young men and woman from our Electrical Program, of which 17 are currently employed in our co-operative employment program.

Education

Early Education: ***Lower Pioneer Valley Education Collaborative ($25,000)***

In September of 2014, the Lower Pioneer Valley Education Collaborative (LPVEC) Career and Technical Education Center (CTEC) opened an Early Education and Care program for secondary students and a licensed early learning center for children age 6 months through 7 years old. Using funds from the VOC Grant program, CTEC purchased playground equipment and classroom furniture. The equipment will enhance the learning experiences for children in early education and care and ensure that secondary students are familiar with industry standards and equipment requirements espoused by American Society for Testing and Materials (ASTM). Sixty-four secondary students explored the program in the fall, and eight secondary students are currently enrolled in the program. The LPVEC Chapter 74 approval by October of 2014.

Health Services

Dental Assisting: ***Somerville Public Schools ($95,745)***

Over the past four years, Somerville High School, Center for Career and Technical Education worked with Tufts University to develop a study on the Dental Assisting Field need in the City of Somerville. Tufts University, and 66 Dental affiliates in the City of Somerville, want to ensure that students in the Dental Assisting Program are trained on modern equipment that will ensure they are ready to enter the workforce or articulate with a college. Using funds from the VOC Grant program, the district purchased the entire set-up to start a Dental Assisting Program. This investment was matched with a $140,000.00 in-kind/equipment match from Tufts University, as well as the commitment of student field-trips to Tufts school of dentistry. This equipment will enhance the curriculum offered to the 25 students annually who enter the program. Each year, an equal number of students complete the program, with a 95% industry placement rate.

Dental Assisting: Blackstone Valley Regional Technical School District ($25,000)

Blackstone Valley Regional Vocational Technical School District received funding to purchase three "Rear Delivery Systems," and the custom cabinetry needed to reconfigure the program treatment rooms for its Dental Assistant Program. The program has a history of running at capacity since it was established in 2005. Staff determined that the configuration of the treatment rooms did not allow for the students to get in and become involved with demonstrations of Assistants' tasks and duties. The District is removing partitioning walls, installing a fourth chair, and installing new rear delivery systems and dental cabinetry so that the classes may split in quarters and all students can occupy the treatment areas for teaching, learning, and working. Both the Massachusetts Dental Association and the Valley Tech Education Foundation donated to the program, and the District enjoys dual enrollment status in upper level math, English, science, and history courses with Massachusetts Bay Community College.

Medical Assisting: Greater Lowell Regional Vocational Technical School District ($24,700)

Greater Lowell Technical High School received a grant to insure that students in the Medical Laboratory & Assisting program are trained on modern equipment that will ensure they are ready to enter the workforce. Using funds from the VOC Grant program, the district purchased Electrocardiograph and Occupational Vision Screening equipment. This equipment will enhance the curriculum offered to the 40 students annually who enter the program. Each year an equal number of students complete the program, with a 91% industry placement rate.

Nurse Assisting/ Health Assisting: Greater New Bedford Regional Vocational Technical School District ($20,397)

The Advisory Board members for Nurse Assisting/Health Assisting at Greater New Bedford Regional Vocational Technical School District (GNB) Voc-Tech provide valuable recommendations regarding curriculum, instruction, and equipment for our program. Meeting participants expressed that students in the program would benefit from more "real world" hands-on patient care experience as well as more opportunities to practice critical thinking skills. Funds received from the VOC Grant program have allowed us to purchase a Nursing Anne Patient Care Simulator, along with training for our instructors. Students in the freshman and sophomore classes (40) have been using the simulator to practice hands-on skills prior to working with actual patients during their clinical placement rotations. Next year, GNB will be incorporating the simulator into the junior curriculum (20 students). This equipment allowed GNB to add a higher level of clinical training to our program and provided an additional teaching, learning, and evaluation tool that is preparing our students for post-secondary education or employment in the health-care field. Each year, approximately 20
students complete the program, with 100% passing the Certified Nursing Assistant State test.

Hospitality and Tourism

Culinary: Berkshire Hills Regional School District ($4,000)

Over the last several years the Culinary Arts Program at Berkshire Hills Regional School District ("Berkshire Hills RSD") developed an articulation agreement with Berkshire Community College. With this affiliation, staff at Berkshire Hills RSD saw the need to develop a curriculum that fit with industry standards. The grant helped to pay for new stoves in the kitchens which allows students to bake on a consistent basis. The students know how to use newer equipment and how to care for it. Each semester, 20 students are in the Culinary Arts program and utilized the equipment on a regular basis. Some students have also expressed an interest in continuing on to a career in the food service industry upon graduation.

Information Technology Services

Information Technology: North Shore Regional Vocational Technical School District ($9,250)

At North Shore Regional Vocational Technical School District ("North Shore"), the information technology (IT) department worked closely with Bunker Hill Community College (BHCC) in creating articulation agreements, encouraging students to attend BHCC summer programs as well as having students successfully complete Cisco Associate Degree programs at BHCC. Using the grant, North Shore purchased the Cisco 2911 Security Bundle w/sec license, a Cisco High Speed Wan Interface Card – expansion module, Cisco V.35 Cable DTE Male to Smart Serial 10 Feet and Cisco V.35 Cable DCE Female to Smart Serial 10 Feet plus a Cisco Catalyst 2960 -24TT Switch. The equipment will allow for the enhancement, updating, and improvement of students to router/equipment ratios in the lab environment allowing for more hands on time per student. The new more up-to-date equipment is needed to prepare the students for the most current certification exams. Each year the total number of graduates in the program either acquire employment in their technical area or go on for further education in the field of IT.

Manufacturing, Engineering, and Technology

Engineering: South Shore Vocational Technical School District ($32,500)

Over the past few years, South Shore Vocational Technical School District worked with industry partners to ensure that students in the Electronics and Engineering Technology program are trained on modern equipment that will ensure they are ready to enter the workforce or continue to higher education. Both of those initiatives are core to Career and Technical Education. The district purchased new computers and Arduino Microcontroller Inventor Kits and related electronics material to offer industry standard microcontroller training used in industry and in higher education. This investment was matched with a $7,500 electronic parts donation from Dynisco instruments, and ongoing leader in high quality electronics and engineering temperature and pressure transducers. Dynisco also supported the school with industry soldering certifications and their president participates as a valued Advisory Committee Member. This equipment will enhance the curriculum offered to 53 students including 27 core electronics students and an additional 26 engineering academy students. That curriculum is enhanced by the

grant material utilized to teach industry standard microcontroller programming as well as building custom line follower robots that will be competed with this year. Each year, in general, an equal number of students complete the program, with a 90% industry placement rate or continuance into higher education.

Engineering: Upper Cape Regional Vocational Technical School District ($89,393)

Funding allowed the Upper Cape Cod Regional Technical School District to provide all engineering students with an opportunity for hands-on experience. Through grant funding, the District purchased a Hydraulic Systems Trainer, 3D Printer, CIM Trainer, and Plastics Technology 1 Learning Systems. A local engineer made an in-kind donation of $73,000 to the program, including equipment and tools. Cape Cod Community College partners with the District to provide opportunities for staff to collaborate and develop linkages between the District's math and physics courses related to equipment purchases and donations and the Community College's Mathematics/ Quantitative Reasoning and Physical Science courses in Semester I of their Science, Mathematics, and PreEngineering concentration.

Machine Tool Technology: Assabet Valley Regional Vocational Technical School District ($97,588)

Assabet Valley Regional Technical High School continued to forge meaningful relationships with local industry as a means to enhance and validate the skillset of the Precision Machining program which is a DESE approved Chapter 74 Machine Tool program. Through supporting funds from the VOC Grant program, Assabet Valley purchased two HAAS CNC Turning Centers. This grant was matched through generous industry based in-kind donations in excess of $183,000. This generous in-kind donation was a combination of SolidWorks and Trident Machine, both who offered industry standard technology and training opportunities. The in-kind donation also reflects the Manufacturing Advancement Center Workforce Innovation Collaborative-MACWIC's direct involvement with industry, higher educational partners, and Machine Tool programs through its Certificate of Applied Manufacturing Technology. Currently the Precision Machine program at Assabet Valley serves 42 students in grades 9-12. These students have had the opportunity to train on the two HAAS Turning Centers which were purchased through FY13 VOC Grant program funding. With the advanced skillsets learned, 9 students were able to successfully complete the MACWIC Level II certification process. Hands-on training in CNC Turning procedures also assisted in securing a higher number of cooperative education positions in local industry. With post-graduation, full time job placement opportunities offered to these students, the expected outcome will include graduates remaining in Massachusetts as they continue a successful career pathway in advanced manufacturing.

Machine Tool Technology: Franklin County Technical School District ($100,000)

For years, manufacturing companies in Franklin County and beyond have had a dire need for highly skilled precision machine technology workers. Franklin County Technical School's Machine Technology program, a prime source for potential manufacturing employees at local companies, was utilizing machinery that was in some cases 50 years old. With this in mind,

Franklin County Technical School partnered with local businesses to upgrade the school's Machine Technology program so students could be trained on the most-up-date and modern equipment, thereby being ready to enter the workforce upon graduation. In 2014, the school secured $100,000 in state funding through the Vocational Equipment Grant process, along with $217,000 in local industry donations, and approximately $200,000 in in-kind donations from Haas Automation, Inc., Valley Steel Stamp, Inc., and Air Compressor Engineering Co., Inc. for the purchase of 13 new Haas precision machinery and equipment for the program. The purchase of the equipment completely modernized Machine Technology for the 43 students in the program. Upon graduation, approximately 70% of the program's students enter the precision machining workforce.

Franklin County Technical School and the companies also teamed up with Greenfield Community College and Franklin Hampshire Regional Employment Board to offer an adult training program called the Middle Skills Academy. The first-ever adult session graduated 15 students in December, and 14 students are enrolled in the current session.

Media:

The Recorder (Greenfield, MA), September 14, 2013
WWLP Channel 22 News Springfield, September 27, 2013
The Republican (Springfield, MA), October 7 2013
The Recorder, November 1, 2013
Athol Daily News, November 9, 2013

Machine Tool Technology: Montachusett Regional Vocational Technical School District ($100,000)

Using grant funds provided by the Executive Office for Administration and Finance ($100,000.00) Montachusett Regional Vocational Technical School District purchased an Electrical Discharge Machine, in an effort to better prepare program graduates to enter the workforce as skilled technicians. The generous investment made by the EOAF was matched by a $112,000+ in-kind commitment from NyproMold, Inc., located in Clinton, MA. NyproMold has provided training on the new technology and has agreed to have on staff a minimum of two graduates of the Monty Tech Machine Technology program. Further, they have agreed to maintain one co-operative education placement annually. The equipment purchased with EOAF grant funds has been a tremendous asset to the program instructors, as they have been able to significantly enhance the curriculum presented to each of the sixteen students entering the program annually. During the 2013-2014 school year, the Monty Tech Machine Technology program is serving a total of 63 students (5 females and 58 males). The most recent graduate survey indicates all program graduates are all either employed in a related field or pursuing additional training and/or higher educational opportunities.

Machine Tool Technology: Whittier Regional Vocational Technical School District ($45,420)

Over the past few years, Whittier Regional Vocational Technical School District worked with industry partners to ensure that students in our machine tool technology program are trained on

modern equipment that will ensure they are ready to enter the workforce. Using funds from the VOC Grant program, the district purchased six bench lathes, six lathe stands, and four CNC simulators. This investment was matched with a $25,300 in-kind donation from Little Enterprises Inc. This equipment not only enhanced the curriculum offered to our day school students, but it also enhanced the learning opportunities of our night school students who attend Whittier in conjunction with Northern Essex Community College. During this current school year, 46 students were able to take advantage of this up-to-date and state- of- the-art machine tool equipment. Each year, an equal number of students complete the program, with a 100% industry placement rate.

Press:

"Machine Tech gets $45,420 grant for machinery," Whittier Regional Technical School District Press Release, May 28, 2014.

Manufacturing Technology: Pittsfield Public Schools ($100,000)

The manufacturing technology program at Taconic High School has had a partnership with local business and industry that has worked together for years. Seven years ago, the Pittsfield Public Schools created a partnership with Berkshire Community College. This partnership created a pathway from secondary education to post-secondary education in manufacturing. Students are earning college credit while in high school if enrolled in the manufacturing program. The Pittsfield Public Schools leveraged a generous in-kind donation of $172,000 to successfully apply for $100,000 in funding through the VOC Grant. Pittsfield Public Schools purchased a Haas 4 Axis CNC Machining Center, Haas CNC Lathe and a Proto-Trak retrofit for a Bridgeport mill. This improved the use of CNC stations for computer numerical control machines substantially. Currently, 28 students are enrolled in the program and approximately 70% of the students enter into the workforce of manufacturing or post-secondary education. The district a founding member of the Massachusetts Manufacturing Advancement Center Workforce Innovation Collaborative (MACWIC) program and recently had a 100% pass rate for level I skills in manufacturing. We have received a significant amount of press that has been beneficial to the program.

Media:

"Berkshire Community College, Taconic High School Announce Level I Manufacturing Training Results," Berkshire Community College Press Release, January 23, 2014.

Dobrowolski, Tony, "High-tech computer lab boosts Taconic, BCC manufacturing programs," *Berkshire Eagle*, October 1, 2013.

Levulis, Jim, "Taconic HS and BCC Showcase High-Tech Partnerships," *WAMC Northeast Public Radio*, October 2, 2013.

McKeever, Andy, "Taconic High Receives Grant To Upgrade Manufacturing Equipment," *iBerkshires.com*, May 31, 2013.

"Secretary Bialecki Tours Taconic High School Machine Shop," Massachusetts Executive Office of Housing and Economic Development Press Release, March 11, 2014.

"Berkshire Community College Kicks off Manufacturing Month by Unveiling a New State-of-the-Art Lab to Benefit Critical Industry Growth," *PRWeb*, October 1, 2013.

Metal Fabrication: Gateway Regional School District ($23,855)

Grant funding purchased a mobile virtual reality teachingWELD simulation system, which was needed to enhance learning for new welders, improve safety for students, and reduce classroom expenses. The Gateway District provided funding for the instructor salary and benefits, as well as program materials, space, phone, internet, and utilities. The IT department managed the materials and hardware technology needs to run the simulators, at a greater than anticipated cost. Five new desktop computers were purchased and installed to support the simulators. TeachWELD provided professional development on the new simulators, and funding for other professional development was paid through the Perkins Technical and Career Improvement allocation grant, managed by the Collaborative for Educational Services. The program graduated 8 students in 2013. Of the 7 who responded to the survey, 2 (29%) are in a 2-year or technical program.

Media:

"Gateway Regional High School introduces 'virtual welding,'" *The Republican*, June 26, 2013.

Metal Fabrication: Greater Fall River Regional Vocational School District ($50,000)

The "FLOW" Mach 2 1313b-CNC Water Jet Cutter is "state of the art", water-based cutting technology that is quickly becoming the choice of most metal working companies. The water jet cutter uses less electricity and limits toxic fumes entering the working atmosphere, providing students and instructors with a safer learning environment. Training in this growing technology will allow students in the Metal Fabrication and Joining Technology program access to more lucrative employment opportunities as a result of the higher-order thinking skills that will be taught through the purchase and use of this equipment. Additionally, the CNC Water Jet cutter will provide all students with the opportunity to enhance their vocational competencies, making them more valued employees to the growing number of Massachusetts-based companies that are seeking this particular skill set from their workers. Students will implement all aspects of Computer Numerical Controls (CNC) programming as part of the daily experiential learning that takes place in the Metal Fabrication and Joining Technology program. Diman received a generous in-kind donation Flow International Corporation of Kent, WA, in the form of a $25,000 price reduction in the purchase price of the "FLOW" Mach 2 1313b-CNC Water Jet Cutter. Additionally, Flow International Corporation will be providing in-kind professional development and in-house training for all Metal Fabrication and Joining Technology instructors, with an estimated value of $3000.00. This equipment will enhance the curriculum offered to all students who enter or who are currently enrolled in the program. In the current school year, the program has eighty-eight students enrolled, with twenty-four seniors in the Class of 2014. Of the twenty-

four seniors, forty –two percent are currently employed the school's Cooperative Education program.

Robotics and Automation: Springfield Public Schools ($15,000)

The Robotics and Automation program at Putnam Vocational Technical Academy in Springfield, Mass was awarded $15,000 from the 2013 Mass Vocational Equipment Grant. It took nine months in the Springfield school system before equipment could be ordered. In February 2014 twenty-four Pitsco Tetrix robot kits with curriculum was delivered and utilized by the students. The students have benefited from this grant immensely allowing them to explore the mechanical engineering aspect of robotics along with motor control. Previously Putnam Robotics only had Lego NTX robots which are snap together. The Tetrix robots are being utilized in 10th grade to assist students in transitioning to the next grade where robotic articulating arms are utilized. The addition of this equipment will also make the shop more attractive to students choosing the shop in ninth grade and to local industry who we request to have the students in a cooperative or internship position. The number of students in the program are as follows: 9th grade- 20, 10th grade- 18, 11th grade-18 and 12th grade-10.

<u>Transportation</u>

Auto Technology: Greater Lawrence Regional Vocational Technical School District ($49,100)

Funding allowed for the purchase of a new unit to double the capacity of the spray booth paining capabilities in the department. Industry partners donated the materials, supplies, and labor to construct a paint mixing room that will be attached to one of the spray booths to support the program. Northern Essex Community College maintains a strong relationship with the school and plans to purchase a Master CAM software program to support collaborative efforts. Students who complete the program receive school certification in automotive collision refinishing and repair, and may also gain college credits through their academic and vocational-technical program to have credit applied through articulation agreements with post-secondary schools.